

## **ENGINEERING AND RELATED SERVICES**

**May 19, 2006**

### **STATE PROJECT NO. 750-99-0132 BREACH ANALYSES FOR THE STATE-MAINTAINED DAMS STATEWIDE**

Under Authority granted by Title 48 of Louisiana Revised Statutes, the Louisiana Department of Transportation and Development (DOTD) hereby issues a Request for Qualification Statements (RFQ) on Standard Form 24-102 (SF 24-102), "Professional Engineering and Related Services", revised January 2003, from Consulting Firms (Consultant) to perform all engineering and related services required for the subject project. **All requirements of Louisiana Professional Engineering and Land Surveying (LAPELS) Board must be met prior to the execution of the contract.** One Prime-Consultant/Sub-Consultant(s) (Consultant/Team) will be selected for this Contract.

**Project Manager** – Mr. Elnur Musa, P.E., he may be reached at (225) 274-4321.

### **PROJECT DESCRIPTION**

The selected Consultant/Team will prepare a comprehensive breach analyses for the State-maintained dams, as required by the Louisiana Revised Statute 38:21-28, State Dam Safety Rules & Regulations and the Federal Emergency Management Agency (FEMA). DOTD and FEMA regulations require an Emergency Action Plan (EAP) for dams with a high or significant downstream hazard classification. Due to the age and structural condition of State-maintained dams; a breach analysis is needed to prepare an Emergency Action Plan for each dam, to alert the downstream community in case there is impending dam failure.

The breach analysis will establish the magnitude of the inundated area (inundation map), peak flood elevations, and arrival times of the peak flood elevations at critical locations. The Sunny Day Breach Criteria will be used as described in Louisiana Dam Safety Rules and Regulations Manual dated March 1997.

The Dam Safety Unit will select a number of the State-maintained dams for the Consultant to perform breach analyses. This selection will be based on the structural condition of the dam based on recent inspection reports, volume of reservoir, height of dam, and the impact of dam failure on downstream life and/or property, regardless of its present hazard classification.

### **SCOPE OF SERVICES**

The selected Consultant/Team will provide the following items:

- 1) Execute a breach analysis using either HEC-RAS, DAMBRK, or FLDWAV software programs. HEC-1 will only be acceptable in limited circumstances. Commercially modified public domain software is acceptable only if the Consultant provides DOTD a functional copy of the software along with a user's manual.
- 2) The Consultant will provide a cost estimate and details of each breach analysis based on the dams provided to the Consultant on the following components:
  - a. Cost of Land Surveys for Bridges
  - b. Cost of Land Surveys for Field Cross Sections
  - c. Cost of the Hydraulic and Hydrologic analysis (the Breach Study & Report)
  - d. The Sunny Day Inundation Map
- 3) The proposed cost estimate for each dam will be reviewed and negotiated by DOTD to prioritize the breach studies needed within available funds.
- 4) The Sunny Day Breach Criteria is to be used as described in Dam Safety Rules and Regulations Manual dated March 1997, page 22, second paragraph as modified by item 5.
- 5) The extent of the study downstream will be where the flow wave elevation does not exceed the 10-year flood elevation for the receiving channel.
- 6) The Consultant will establish the 10-year flood elevation downstream of the dam.
- 7) Cross sections from existing FEMA flood studies will be used whenever available. DOTD's Floodplain section will request this information based on the Consultant's request. It is the Consultant's responsibility to check FEMA's flood maps first to see if formal studies in the area of the dam have been performed.
- 8) Channel cross sections will be obtained from current Quadrangle Maps or Lidar Map information if available, but at least one field cross section will be obtained between bridges. This cross section will be from high bank to high bank. Overbank information at each surveyed cross section will be extended using Quadrangle Maps or Lidar Maps.
- 9) At least one channel cross section will be provided every mile from high bank to high bank; it will be extended using Quadrangle Maps or Lidar Maps as well.
- 10) A land survey may be required for all bridges downstream of each dam site within the breach study area if bridge information cannot be obtained from FEMA Flood Studies.
- 11) Breach parameters in the breach analysis will be based as provided in the Federal Register on March 18, 1987.
- 12) The results of the flood wave will be provided on a profile map from the Dam Site to the limits of the study.
- 13) An inundation map will be provided based on the results of the breach study.
- 14) The Consultant will provide input and output files based on the program used to perform the analyses.

- 15) The Consultant will provide 3 bounded reports on each dam analysis.
- 16) The Consultant will provide computer files for inundation maps.
- 17) The Consultant will reestablish the contours of the receiving upstream of the dam using the stage area/volume curves when using HEC-RAS.

### **ITEMS TO BE PROVIDED BY DOTD**

- 1) A list of the six dams that will be considered for a breach analysis
- 2) Detailed information on each dam from the Dam Safety's Database
- 3) Stage Volume/Area Curves
- 4) Federal Breach Parameters
- 5) Historical FEMA computer files if available for HEC1, HEC2, HEC-HMS, or HEC-RAS will be made obtained upon request. These files will provide cross sectional information upstream and downstream of a dam.
- 6) Preliminary inundation maps for each dam (if available).

### **REFERENCES**

All designs and engineering documents will meet the standard requirements as to format and content of the DOTD; and will be prepared in accordance with the latest applicable editions, supplements and revisions of the following:

1. AASHTO Standards, ASTM Standards or DOTD Test Procedures
2. DOTD Location and Survey Manual
3. DOTD Roadway Design Procedures and Details
4. DOTD Hydraulics Manual
5. DOTD Standard Specifications for Roads and Bridges
6. Manual of Uniform Traffic Control Devices (Millennium Edition)
7. DOTD Traffic Signal Design Manual
8. National Environmental Policy Act (NEPA)
9. National Electric Safety Code
10. National Electric Code (NFPA 70)
11. DOTD Environmental Impact Procedures (Vols. I-III)
12. Policy on Geometric Design of Highways and Streets
13. Construction Contract Administration Manual
14. Materials Sampling Manual
14. DOTD Bridge Design Manual
15. Consultant Contract Services Manual
16. Geotechnical Engineering Services Document
17. Bridge Inspectors Training Manual/90
18. Dam Safety Rules and Regulations Manual (1997)

### **COMPENSATION**

Compensation to the Consultant for services rendered in connection with this Contract will be negotiated billable rates with a maximum contract limitation of \$175,000.

## **CONTRACT TIME**

The consultant will proceed with the services specified herein after the execution of this contract and upon written Notice-To-Proceed from the DOTD, and will not exceed two years, including review time. The delivery schedule for all project deliverables will be established by the Project Manager.

## **MINIMUM PERSONNEL REQUIREMENTS**

The following requirements must be met at the time of submittal:

1. At least one Principal of the Prime-Consultant will be a Professional Civil Engineer registered in the State of Louisiana.
2. In addition to the above, the Prime-Consultant must also employ a minimum of one Professional Engineer registered in the State of Louisiana, with at least five years experience in hydraulic studies and dam breach analysis, and a corresponding support staff.
3. The Prime-Consultant must also employ on a full-time basis, or through the use of a Sub-Consultant(s):
  - a. One Registered Professional Land Surveyor.

## **EVALUATION CRITERIA**

The general criteria to be used by DOTD (when applicable) in evaluating responses for the selection of a Consultant to perform these services are:

1. Consultant's firm experience on similar projects, weighting factor of 3;
2. Consultant's personnel experience on similar projects, weighting factor of 4;
3. Consultant's firm size as related to the estimated project cost, weighting factor of 3;
4. Consultant's past performance on similar DOTD projects, weighting factor of 6;
5. Consultant's current work load, weighting factor of 5;
6. Location where the work will be performed, weighting factor of 4;

Consultants will be evaluated as indicated in Items 1- 6. The evaluation will be by means of a point-based rating system. Each of the above criteria will receive a rating on a scale of 0-4. The rating will then be multiplied by the corresponding weighting factor. The firm's rating in each category will then be added to arrive at the Consultant's final rating.

If Sub-Consultants are used, each member of the Consultant/Team will be evaluated on their part of the contract, proportional to the amount of their work. The individual team member ratings will then be added to arrive at the Consultant/Team rating.

DOTD's Consultant Evaluation Committee will be responsible for performing the above described evaluation, and will present a short list of the three (if three are qualified) highest rated Consultants to the Secretary of the DOTD. The Secretary will make the final selection.

## CONTRACT REQUIREMENTS

The selected Consultant will be required to execute the contract within 10 days after receipt of the contract.

**INSURANCE** - During the term of this contract, the Consultant will carry professional liability insurance in the amount of \$1,000,000. The Prime-Consultant may require the Sub-consultant(s) to carry professional liability insurance. This insurance will be written on a “claims-made” basis. Prior to executing the contract, the Consultant will provide a Certificate of Insurance to DOTD showing evidence of such professional liability insurance.

**AUDIT** - The selected Consultant/Team will allow the DOTD Audit Section to perform an annual overhead audit of their books, or provide an *independent* Certified Public Accountant (CPA) audited overhead rate. This rate must be developed using Federal Acquisition Regulations (FAR) and guidelines provided by the DOTD Audit Section. In addition, the Consultant/Team will submit semi-annual labor rate information, when requested by DOTD.

The selected Consultant/Team will maintain an approved Project Cost System and segregate direct from indirect cost in their General Ledger. Pre-award and post audits, as well as interim audits, may be required. For audit purposes, the selected Consultant/Team will maintain accounting records for a minimum of five years after final contract payment.

Any Consultant currently under contract with the DOTD and who has not met all the audit requirements documented in the manual and/or notices posted on the DOTD Consultant Contract Services Website ([www.dotd.louisiana.gov](http://www.dotd.louisiana.gov)), will not be considered for this project.

## SUBMITTAL REQUIREMENTS

One original (**stamped original**) and four copies of the SF 24-102 must be submitted to DOTD. All submittals must be in accordance with the requirements of this advertisement and the Consultant Contract Services Manual. Any Consultant/Team failing to submit any of the information required on the SF 24-102, or provide inaccurate information on the SF 24-102, will be considered non-responsive.

Any Sub-Consultants to be used, including Disadvantaged Business Enterprises (DBE), in performance of this Contract, must also submit a SF 24-102, completely filled out and containing information pertinent to the work to be performed.

The Sub-Consultant’s SF 24-102 must be firmly bound to the Consultant’s SF 24-102. In Section 9, the Consultant’s SF 24-102 must describe the **work elements** to be performed by the Sub-Consultant(s), and state the approximate **percentage** of each work element to be subcontracted to each Sub-Consultant.

Name(s) of the Consultant/Team listed on the SF 24-102, must precisely match the name(s) filed with the Louisiana Secretary of State, Corporation Division, and the Louisiana State Board of Registration for Professional Engineers and Land Surveyors.

The SF 24-102 will be identified with State Project No. 750-99-0132 and will be submitted **prior to 3:00 p.m. on Monday, June 5, 2006**, by hand delivery or mail addressed to:

Department of Transportation and Development  
Attn.: Dr. Babak Naghavi, P.E., P.H.  
Consultant Contract Services Administrator  
1201 Capitol Access Road, **Room 405-T**  
Baton Rouge, LA 70802-4438 or  
Post Office Box 94245  
Baton Rouge, Louisiana 70804-9245  
Telephone: (225) 379-1989

### **REVISIONS TO THE RFQ**

DOTD reserves the right to revise any part of the RFQ by issuing an addendum to the RFQ at any time. Issuance of this RFQ in no way constitutes a commitment by DOTD to award a contract. DOTD reserves the right to accept or reject, in whole or part, all Qualification Statements submitted and/or cancel this announcement if it is determined to be in DOTD's best interest. All materials submitted in response to this announcement become the property of DOTD and selection or rejection of a submittal does not affect this right. DOTD also reserves the right, at its sole discretion, to waive administrative informalities contained in the RFQ.